



# INSTITUTE OF NANO SCIENCE AND TECHNOLOGY, MOHALI

(An autonomous Research Institute of Department of Science and Technology,

Government of India)

Habitat Centre, Sec-64, Phase X, Mohali – 160062, PUNJAB

Phone No: 0172 – 2210056/57/73/75, Fax No: 0172 – 2211074

Website: [www.inst.ac.in](http://www.inst.ac.in)

F. No. INST/12(110)/2019-Pur

Date: 29/08/2019

To

## **NOTICE INVITING TENDER**

Dear Sir,

Sealed Quotations are invited on behalf of Director, INST Mohali for the purchase of **High Temperature Tubular Furnace with Accessories** so as to reach latest by **23<sup>rd</sup> September, 2019** on or before 2.00 pm. The Quotations will be opened on the same day at 3.00 pm in the presence of tenderers, if any:

**Before quoting, please read the instructions and technical specifications carefully as enclosed.**

**Note: Please attach the copies of previous supply order to any Government Institutes/ autonomous bodies/ PSU, if any, with the quotation and provide the contact person and his contact Nos.**

Tender is also available on Institute website: [www.inst.ac.in](http://www.inst.ac.in) or CPPP website: [www.eprocure.gov.in](http://www.eprocure.gov.in).

Yours faithfully

Sd/-  
Head of Office



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## INSTRUCTIONS

- Inquiry, if any, may be sent by Courier or Speed Post. INST will not be liable for any kind of postal delay.
- The Quotation Should be addressed to the Director INST, Mohali invariably giving on the envelop Quotation for \_\_\_\_\_, Reference No. With date and due date with time.
- The Quantity mentioned in this inquiry shall be deemed to be only approximate and will not in any manner be binding on the Institute.
- The quotation should be enclosed in a sealed envelope.
- Firms will quote separately for each article.
- The rates offered should be FOR Mohali in case of firms situated outside Chandigarh and free delivery at the Institute premises in case of local firms.
- GST: The Institute is not exempted from the payment of GST. The rate (i.e., percentage of taxes applicable should be clearly indicated, wherever chargeable.
- In case of Ex-godown terms the amount of packaging forwarding freight etc. should clearly be indicated by percentage or lump sum amount. Current rate of GST must be mentioned. The institute is exempted from Customs and Excise Duty.
- The delivery period should be specifically stated. Ex-Stock and earlier delivery may be preferred.
- The firms are requested to give detailed description and specifications together with the detailed drawings, printed leaflets and literature of the Article quoted.
- The name of the manufacturers and country of manufacture should also invariably be stated. In the absence of these particulars the quotation is liable for rejection.
- Quotation should have minimum validity of 120 days from the date of opening.
- The rates quoted should be for each item separately otherwise your quotation is liable to be ignored.
- Late or delayed quotation will not be accepted.
- Director has the right to reject to the quotations and to split up the requirements or change any or all the above conditions without assigning any reason.



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## NOTICE INVITING TENDER

INST invites tender from the reputed manufacturers or their authorized dealers so as to reach this office on or before scheduled date and time for the instrument, as per specifications given in the Annexure attached to the Tender form. All offers should be made in English and should be written in both figures and words. Tender forms can be downloaded from the website ([www.inst.ac.in](http://www.inst.ac.in)) of the Institute.

The bidders are requested to read the tender document carefully and ensure compliance with all specifications/instructions herein. Non-compliance with specifications/instructions in this document may disqualify the bidders from the tender exercise. The Director, INST reserves the right to select the item (in single or multiple units) or to reject any quotation wholly or partly without assigning any reason. Incomplete tenders, amendments and additions to tender after opening or late tenders are liable to be ignored and rejected.

## EQUIPMENTS LIST

S. No.	Item Description	Qty	Tender Submission Date and Time	Tender Opening Date and Time	Tender Fee	EMD
1	High Temperature Tubular Furnace with Accessories	01 No	23/09/2019 upto 2.00PM	23/09/2019 at 3.00PM	Rs.590/-	Rs 20,000/-

**Note:** The Institute shall not be responsible for any postal delay about non-receipt / non delivery of the bids or due to wrong addressee.

### TERMS AND CONDITIONS

Important Conditions of the tender to be abide by the tenderer

- Due date:** The tender has to be submitted before the due date. The offers received after the due date and time will not be considered.
- Preparation of Bids:** The offer/bid should be submitted in single bid system (i.e.) Technical bid cum financial bid. **The Quotations should be valid for 120 days from the due date.** The Quotations duly sealed and super scribed on the envelope with the reference No. and due date, should be addressed to “**The Director, Institute of Nano Science and Technology, Habitat Centre, Sector 64, Phase –X, Mohali, 160062, Punjab**” so as to reach on or before the due date.
- Delivery of the tender:** The tender shall be sent to the addressee given in para 2 (above) either by post or by courier so as to reach our office before the due date specified in our Schedule. The offer/bid can also be dropped in the tender box on or before the due date specified in the schedule. The tender box is kept in Foyer area of INST.
- Opening of the tender:** The offer/bid will be opened by a committee duly constituted for this purpose. The bidders if interested may participate on the tender opening Date and Time. The bidder should produce authorization letter from their company to participate in the tender opening. Only one representative will be allowed to participate in the tender opening.
- Acceptance/Rejection of bids:** The INST reserves the right to reject any or all offers without assigning any reason.
- EMD:** Tender fee/EMD is to be obtained from the bidders except those who are registered with the Central Purchase Organisation, National Small Industries Corporation (NSIC) or the concerned Ministry or Department. The tenderer should submit Tender Fee/EMD amount as per tender ref. no. through NEFT/RTGS in INST Account. Account Details are as follows:
  - Name of Beneficiary: Institute of Nano Science and Technology (INST)
  - Account No. **2452201001102**



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- c. Name of Bank: **Canara Bank, Sector 34, Chandigarh**  
d. IFS Code: **CNRB0002452**  
e. MICR Code: **160015003**  
f. Swift Code: **CNRBINBBFFC**

The details of transaction for EMD viz. Name of bidder firm, Tender Description, Transaction ID/No. of Transfer, Transaction date, Amount of Transaction, Name of Bank, Address of Bank shall be furnished by the tenderer on their letterhead separately along with their tender.

7. **Refund of EMD:** Bid securities of the unsuccessful bidders shall be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30th day after the award of the contract. In case of successful Tenderer, it will be retained till the successful and complete installation of the equipment.
8. **Performance Security:** The supplier shall be required to submit the performance security in the form of irrevocable bank guarantee issued by any Indian Nationalized Bank for an amount which is equal to the 10% of Purchase value at the time of the installation of the equipment covering warranty period of the equipment and should be kept valid for a period of 60 days beyond the date of completion of warranty period.
9. **REASONABILITY OF PRICES :**  
Please quote best minimum prices applicable for a premier Research Institution, **leaving no scope for any further negotiations on prices.** **The quoting party should give a certificate to the effect that** the quoted prices are the minimum and they have **not quoted** the same item on lesser rates than those being offered to INST to any other customer nor they will do so till the validity of offer or execution of the purchase order, whichever is later. We request you to fill the price reasonability certificate format in the enclosed file (Annexure "1")  
The party must give details of identical or similar equipment, if any, supplied to any CSIR labs/DBT Institutes during last three years along with the final price paid and Performance certificate from them.
10. **Force Majeure:** The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
  - If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
11. **Risk Purchase Clause:** In event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from the other source on the total risk of the supplier under risk purchase clause.
12. **Packing Instructions:** Each package will be marked on three sides with proper paint/indelible ink, the following:
- i. Item Nomenclature
  - ii. Order/Contract No.
  - iii. Country of Origin of Goods



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- iv. Supplier's Name and Address
    - v. Consignee details
    - vi. Packing list reference number
  13. **Delivery of Goods:**  
Delivery should be given at **Institute of Nano Science and Technology, Habitat Centre, Sector - 64, Phase 10, Mohali** within a maximum of one month's time from the date of placement of purchase order.
  14. **Delayed delivery:** If the delivery is not made within the due date for any reason, INST will have the right to impose penalty @ 0.5% per week and the maximum deduction is 10% of the contract value / price.
  15. **Prices:** The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges. The offer/bid should be exclusive of taxes and duties, which will be paid by the purchaser as applicable. However the percentage of taxes & duties shall be clearly indicated. The price should be quoted without custom duty and excise duty, since INST is exempted from payment of Excise Duty and is eligible for concessional rate of custom duty. Necessary certificate will be issued on demand. **(Please refer Annexure – 2 for the price to be quoted).**
  16. **Notices:** For the purpose of all notices, the following shall be the address of the Purchaser and Supplier.
    - i. **Purchaser:** The Director,  
Institute of Nano Science and Technology,  
Habitat Centre, Sector – 64, Phase X, Mohali – 160064.
    - ii. **Supplier:** (To be filled in by the supplier)  
.....  
.....  
.....
  17. **Resolution of Disputes:** The dispute resolution mechanism to be applied pursuant shall be as follows:
    - i. In case of Dispute or difference arising between the Purchaser and the supplier relating to any matter arising out of or connected with this contract, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director, Institute of Nano Science and Technology (INST) Mohali and if he is unable or unwilling to act, to some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.
  18. **Applicable Law:** The place of jurisdiction would be Mohali (Punjab) INDIA.
  19. **Right to Use Defective Goods**  
If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.
  20. **Training**  
The Supplier is required to train the designated Purchaser's technical and end user personnel to enable them to effectively operate the total equipment.



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## 21. Installation & Demonstration

The supplier is required to do the installation and demonstration of the equipment within one month of the arrival of materials at the INST site of installation, otherwise the penalty clause will be the same as per the supply of materials.

## 22. Warranty: Three Years Warranty shall have to be provided by the firm. The Warranty should be comprehensive on site.

**Note: If the OEM warranty is for 12 Months, additional extended warranty of two years should be quoted separately with or without price.**

## 23. Taxes and Duties

Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser. However, GST in respect of the transaction between the Purchaser and the Supplier shall be payable extra, if so stipulated in the order.

## 24. Payment: 100% payment shall be made by the Purchaser after delivery, inspection, successful installation, commissioning and acceptance of the equipment at INST in good condition and to the entire satisfaction of the Purchaser and on production of unconditional performance bank guarantee as specified in Clause 8 of tender terms and conditions.

## 25. User list: Brochure detailing technical specifications and performance, list of industrial and educational establishments where the items enquired have been supplied must be provided.

## 26. Manuals and Drawings

- Before the goods and equipments are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals. These shall be in such details as will enable the Purchaser to operate, maintain, adjust and repair all parts of the works as stated in the specifications.
- The Manuals shall be in the ruling language (English) in such form and numbers as stated in the contract.
- Unless and otherwise agreed, the goods equipment shall not be considered to be completed for the purposes of taking over until such manuals and drawing have been supplied to the Purchaser.

## 27. Site Preparation: The supplier shall inform to the Institute about the site preparation, if any, needed for the installation of equipment, immediately after the receipt of the purchase order. The supplier must provide complete details regarding space and all the other infrastructural requirements needed for the equipment, which the Institute should arrange before the arrival of the equipment to ensure its timely installation and smooth operation thereafter.

The supplier shall visit the Institute and see the site where the equipment is to be installed and may offer his advice and render assistance to the Institute in the preparation of the site and other pre-installation requirements.

## 28. Shifting: After 1-2 years once our new building is ready, the supplier has to shift and reinstall the instrument free of cost.

## 29. Acknowledgement: It is hereby acknowledged that we have gone through all the conditions mentioned above and we agree to abide by them.

SIGNATURE OF TENDERER

ALONG WITH SEAL OF THE COMPANY WITH DATE



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## BID PARTICULARS

1. Name of the Supplier :
2. Address of the Supplier :
3. Availability of demonstration of equipment : Yes / No
4. Tender cost enclosed: : Yes/No if yes
5. Online EMD submission information enclosed : Yes / No if Yes

Transaction ID/No. of Transfer\_\_\_\_\_

Transaction date: \_\_\_\_\_

Amount of Transaction\_\_\_\_\_

Name of Bank\_\_\_\_\_

Address of Bank\_\_\_\_\_

6. Name and address of the Officer/contact person to whom all references shall be made regarding this tender enquiry

Name:

Address:

Ph:

Fax:

Mobile:

Email:

Web:





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**Compliance statement for the tender specifications**

Tender Ref No.: **INST/12(110)/2019-Pur**

S.No.	Check list of documents/Undertakings	Yes/No	Remarks (give explanation if the answer is No)
1.	Is EMD details attached? (if applicable)		
2.	Is the bidder original equipment manufacturer (OEM)/authorised dealer?		
3.	If authorised dealer, recent dated certificate to this effect from OEM, attached or not?		
4.	Undertaking from OEM regarding technical support & extended warranty period		
5.	Validity of 180 days or not?		
6.	Price Reasonability Certificate enclosed as per format??		
7.	Undertaking from bidder regarding acceptance of tender terms & conditions		
8.	Whether list of reputed users (along with telephone numbers of contact persons) for the past three years specific to the instrument attached?		
9.	Does the instrument comply with all the specifications detailed? Attach a separate sheet showing compliance with the specifications and explanations thereto if the equipment varies from the requested specifications.		
10.	Whether free Installation, Commissioning and Application Training offered?		
11.	Whether comprehensive onsite warranty offered?		
12.	Whether Annual maintenance after expiry of comprehensive onsite warranty quoted separately?		
13.	Whether free of cost shifting of instrument from transit campus to main campus offered?		





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## Annexure – 1

### PRICE REASONABILITY CERTIFICATE

This is to certify that we have offered the maximum possible discount to you in our Quotation No. \_\_\_\_\_ dated \_\_\_\_\_ for (Value Rs.) \_\_\_\_\_.

We would like to certify that the quoted price are the minimum and we have not quoted the same item on lesser rates than those being offered to INST to any other customer nor we will do so till the validity of offer or execution of purchase order, whichever is later.

Seal and Signature of the tenderer



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## Annexure - 2

Name of Equipment with Model No: \_\_\_\_\_

Name & Address of Manufacturer: \_\_\_\_\_

### **Price Quoted**

#### **A. For Indigenous Equipment**

- I. Cost of equipment (Rs.) \_\_\_\_\_
- II. GST (Rs.) \_\_\_\_\_
- III. Any other charges (Rs.) \_\_\_\_\_
- IV. Total cost of equipment (in Rs.) F.O.R, INST, Mohali \_\_\_\_\_

#### **B. For Imported Equipment**

- I. Cost of equipment (In Foreign Currency) \_\_\_\_\_
- II. Packing and Forwarding \_\_\_\_\_
- III. FOB/FCA Price \_\_\_\_\_
- IV. Freight charges upto Delhi Airport \_\_\_\_\_
- V. Insurance (110% of the cost of the equipment) \_\_\_\_\_
- VI. CIF/CIP upto Delhi Airport \_\_\_\_\_

Signature of Tenderer with date and seal



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## **Specifications for high temperature tubular furnace with mass flow controller and other accessories**

**MAKE:** should have ISO 9001 – 2015 CERTIFIED CO. / CE Mark.

**Type:** Horizontal Tube Furnace with both vacuum and gas purging options

**Maximum Temp.:** 1500 °C or above

**Working Temp.:** 1400 °C or above

**Temperature accuracy:**  $\pm 1$  °C

**Skin temperature at 1400 °C:** < 60 °C

**Body:** Dual body construction in CRC Powder Coated Steel

**Tube Material:** High Purity Alumina ( $\geq 99.8\%$  purity)

**Tube Size:** Outer Dia=50 mm, Inner Dia. =40 mm, Overall length=700 mm, Uniform hot zone: 150 mm or more.

**Gas Purging:** Flanges compatible for all types of gas purging (corrosive as well as noncorrosive gases). All the required and two sets of spare O-rings should be included.

**Vacuum:** Suitable flanges, O-rings, digital pressure gauge, etc, for vacuum heating should be included.

**Heating Elements:** Molybdenum Disilicide ( $\text{MoSi}_2$ ) heating elements rated for high temperature (above 1500 °C).

**Thermocouple type:** R Type (Pt-Pt/ Rh) housed in protective high pure Alumina tube

**Heating rate:**  $\geq 10$  °C per minute up to 1000 °C and  $\geq 5$  °C per minute from 1000 °C to 1400 °C

**Insulation:** All vacuum formed latest technology fiber board insulation which is light weight and heats the furnace with lowest energy consumption. Number of insulation layers: 3, Hot face insulation temperature rating (°C): 1700 °C

**Power Control:** SCR unit (Phase Angle Thyristor) with current limit and soft start Facility and Step Down.

**Temp. Control:** Microprocessor based PID Digital Programmable Controller with 30 step programme with raising, cooling, and dwell steps. It should have controlled heating rate, controlled cooling rate, holding at multiple temperatures at required temperatures and required time.

Display of Set & Actual Temperature with soft touch keys. With Thermocouple break Protection & Cold junction compensation. CE Mark to meet EMC regulations.

Two fibrous ceramic tube blocks should be included for blocking heat radiation from the inside tube.



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**Safety:** High Speed Semiconductor Safety Fuse for over load protection, T.C. Broken indication with automatic tripping, Soft start and stop facility, suitable for heating elements, over current and short Circuit Protection, High Temp. Alarm

**Power Supply:** 230 volts, single phase, AC supply.

**Warranty:** Minimum three years warranty should be quoted.

**Mass Flow controllers (quantity: 2):** Two Mass flow controllers with suitable power supply should be quoted.

**Specifications of mass flow controller:**

**Gas type:** They will be used for both corrosive and noncorrosive gases (corrosive gas model should be quoted)

**Gas flow range:** 0 - 500 SCCM, Body and sensor should be engineered for 0-500 SCCM full scale

**Display:** Digital display on LCD/LED screen. It should indicate mass flow, volumetric flow, absolute pressure, temperature, set point and current flow.

**Number of gases:** It should have multi gas functionality with minimum 90 pre-calibrated selectable gases and option to customizable gas mixtures. NIST traceable calibration certificate should be provided

**Accuracy:**  $\pm (0.2\% \text{ of full scale} + 0.8\% \text{ of reading})$

**Repeatability:**  $\pm 0.2\%$

**Response Time:**  $\leq 100$  milliseconds

**Operating Range:** 1% to 100% Full Scale

**Warm-up Time:**  $< 1$  second

**Turn-down ratio:** 200 to 1.

**Power supply:** Universal 12-26 Vdc power supply input

**Software:** Easy-to-use configuration and calibration software (RS-232/RS-485).

All the required power supply, cables, connections, filters, etc., for working should be included.

**Warranty:** Minimum three years warranty should be quoted.

**Optional:**

1. Suitable vacuum pump
2. Spare high pure alumina tube
3. Spare heating element